

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027167**Date Inspected:** 07-Feb-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** L & M Industrial Fabricators**Location:** Tangent, Oregon**CWI Name:** Tom Dreyer**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Head Chimney**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Art Peterson arrived at L & M Industrial Fabricators between the times noted above to randomly observe Quality Control (QC) personnel monitor the welding operations performed by L & M personnel on chimney parapet walls fabricated to the Tower Heads. The following observations for the extra work being performed under the following contract change orders were:

CCO: 203 - Construct Elevator Support Brackets.

North and West Chimneys:

This QA Inspector randomly observed L & M welder David Harrington (Welder ID #34) performing the fit-up and tack-weld operation of (A4a) and (A4b)- plates to the (A4c)- plate of the (20) elevator internal support brackets required per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (2F) horizontal position. The elevator internal support brackets are for the North and West Chimneys.

This QA Inspector randomly observed L & M welder Brad Schroyer (Welder ID #16) performing the fillet weld operation of (B4b) plate fit-up to (B4a) plate of the (10) elevator external support brackets required per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (2F) horizontal position. The elevator external support brackets are for the North and West Chimneys.

This QA Inspector randomly observed L & M welder Jake Schuld (Welder ID #17) performing the fillet weld and partial-joint penetration (PJP) corner-joint groove weld operation of (A4a) and (A4b)- plate fit-up to (A4c) plate of

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the (20) elevator internal support brackets required per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (2F and 2G) horizontal positions. The elevator internal support brackets are for the North and West Chimneys.

This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the welding operations, that the minimum preheat temperature as per the approved WPS's were established and afterwards; verified that the welding parameters (Amps, Volts, and Travel Speed) were in accordance with WPS-D1.5-FC-TC-P4-GF-2G and WPS-D1.5-FC-002-2F using Hobart Excel Arc E71T-1 (.052") diameter electrode.

CCO: 196 - Description: Construct parapet walls at the Tower Heads

North Tower Chimney Parapet:

This QA Inspector randomly observed L & M welder Jake Schuld (Welder ID #17) performing the fillet weld repair operation from a centerline weld longitudinal indication detected by NDT MT method on (2/06/2012) on A5g- stiffener to the A5a- base plate per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (3F) vertical position connecting of the North Tower Head Chimney Parapet.

This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the fillet weld operation, that the minimum preheat temperature as per the approved WPS was established and afterwards; verified that the welding parameters (Amps, Volts, and Travel Speed) were in accordance with WPS-D1.5-FC-002-3F using Hobart Excel Arc E71T-1 (.052") diameter electrode.

North Tower Chimney Parapet:

This QA Inspector observed L & M Industrial Fabricators Quality Control (QC) NDT Inspector Leo Jim Jr, performing NDT Ultrasonic Test (UT) inspection from a previous weld repair plus the additional 10% of weld length on either side of the weld repair on complete-joint penetration (CJP) weld A5b- Parapet Wall to A5a- Parapet Wall Base plate on the North Tower Chimney Parapet between "Y" Locations (700 ~ 1354) mm. The NDT was performed in accordance with L & M Industrial Fabricator's Weld Quality Control Plan (WQCP) - ABF Submittal 2510 Rev. 1. The weld joint numbers inspected and the QC NDT Inspector's test results were:

A5 Wall: Skin Plate "D"

A5b- wall plate CJP corner-joint welded to A5a- base plate- (1) UT Transverse Indication was detected in the 10% penalty area at "Y" Location (1460) mm and therefore 100% UT inspection was performed on the remaining length of the A5b- wall plate to A5a- base plate corner-joint weld. No additional UT Transverse or Longitudinal Indications were detected after the UT inspection was performed on the remaining length of weld.

This QA Inspector observed L & M Industrial Fabricators Quality Control (QC) NDT Inspector Leo Jim Jr, performing NDT Ultrasonic Test (UT) inspection from a previous weld repair plus the additional 10% of weld length on either side of the weld repair on complete-joint penetration (CJP) weld A6b- Parapet Wall to A6a- Parapet Wall Base plate on the North Tower Chimney Parapet between "Y" Locations (502 ~ 1175) mm. The NDT was performed in accordance with L & M Industrial Fabricator's Weld Quality Control Plan (WQCP) - ABF

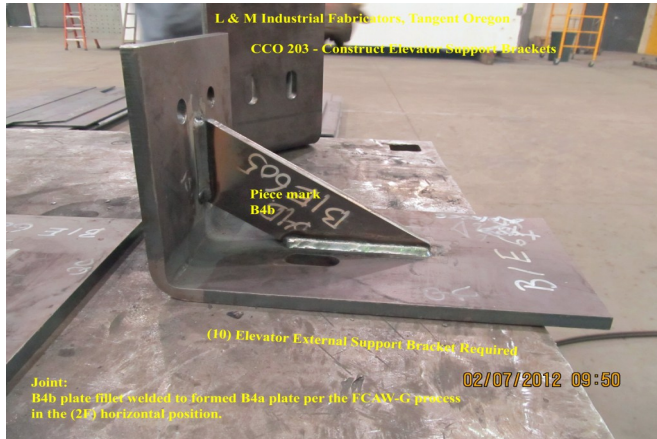
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Submittal 2510 Rev. 1. The weld joint numbers inspected and the QC NDT Inspector's test results were:

A6 Wall: Skin Plate "C"

A6b- wall plate CJP corner-joint welded to A6a- base plate- (1) UT Transverse Indication was detected in the 10% penalty area at "Y" Location (1368) mm and therefore 100% UT inspection was performed on the remaining length of the A6b- wall plate to A6a- base plate corner-joint weld. No additional UT Transverse or Longitudinal Indications were detected after the UT inspection was performed on the remaining length of weld.



## Summary of Conversations:

Only general conversations between QC and QA on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy, 510-385-5910, who represents the Office of Structural Materials for your project.

<b>Inspected By:</b>	Peterson, Art	Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell, Bill	QA Reviewer
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